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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,519	01/09/2001	Craig R. Horne	3132.07US02	8679

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DARDI & ASSOCIATES, PLLC
220 S. 6TH ST.
SUITE 2000, U.S. BANK PLAZA
MINNEAPOLIS, MN 55402

EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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06/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/757,519	Applicant(s) HORNE ET AL.	
	Examiner Edward M. Johnson	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-18 and 22-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-18, 22 and 24-29 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The finality of the rejection mailed 7/16/07 is withdrawn in view of the new rejections over references found in an updated search.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-11, 17, and 22-29 are rejected under 35

U.S.C. 102(e) as being anticipated by Bi et al. US 7,214,446.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived

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from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1 and 17, Bi discloses vanadium oxide particles having average diameters of less than about 500 nm and less than about 150 nm (abstract).

Regarding claims 2-3, 6-11, and 23-29, Bi discloses vanadium oxide particles having average diameters of less than about 500 nm and less than about 150 nm, and a crystal lattice (abstract).

Regarding claim 22, Bi discloses lithium supplementary particles (column 9).

Claims 1-3, 6-11, 17, and 22-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Ghantous et al. US 6,503,646.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the

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invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1 and 17, Ghantous discloses vanadium oxide particles having a diameter of less than a micron, and in batteries.

Regarding claims 2-3, 6-11, and 23-29, Ghantous discloses vanadium oxide particles having a diameter of less than a micron, and in batteries.

Regarding claim 22, Ghantous discloses lithium ions (abstract).

Claims 1 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Koksbang '214.

Regarding claims 1 and 17, Koksbang '214 discloses a battery comprising metal vanadium oxide particles (abstract) of "submicron" size (see column 6, lines 7-8), which would inherently be an average diameter less than 1 micron.

Claims 1-2, 17, 24, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Koksbang '880.

Regarding claims 1 and 17, Koksbang '880 discloses a battery comprising metal vanadium oxide particles (abstract) of 0.1-5 microns (see column 5, lines 4-6).

Regarding claims 2, 24, and 26, Koksbang '880 discloses 0.1-5 microns (see column 5, lines 4-6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 10, 22, and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamuki et al. US 5,556,738.

Regarding claim 1, Takamuki '738 discloses fine particles comprising mixed metal oxide having a particle size (see column 5, lines 21-23) and specifically vanadium pentaoxide (see column 5, lines 51-52).

Regarding claim 10, Takamuki discloses a method of producing fine particles comprising mixed metal oxide including vanadium oxide having a particle size of 1-300 (see column 5, lines 21-23) and specifically 30 nm for vanadium pentaoxide (see column 5, lines 51-52), wherein the particles are mixed at a temperature of 30-80 degrees Celsius.

Takamuki fails to specifically disclose an average diameter of less than about 1 micron.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an average diameter of less than about 1 micron, including 5-50 nm, because Takamuki '738 discloses fine particles comprising mixed metal oxide including vanadium oxide having a particle size of 1-300 (see column 5, lines 21-23) and specifically 30 nm for vanadium pentaoxide (see column 5, lines 51-52), and a gelatin shell of 1-500 nm which is previously cross-linked to increase miscibility (see column 5, lines 58-60 and 65-66).

Regarding claim 22, Takamuki discloses

Regarding claims 2-3 and 24-29, Takamuki '738 discloses specifically 30 nm for vanadium pentaoxide in the disclosed mixed metal oxide (see column 5, lines 51-52). Crystals would be obvious to the ordinarily skilled artisan because Takamuki discloses both tabular and crystal grains (column 3, lines 19-22).

Allowable Subject Matter

Claims 6-9 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: In view of the prior art and

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specifically the patented claims of record (i.e. see Applicant's terminal disclaimer) and generally, the specifically claimed particle distributions would not have been obvious to one of ordinary skill in the art at the time the invention was made in the particles of the instant claims 6-9, nor the batter of the instant claim 23.

Response to Arguments

Applicant's arguments filed 5/11/07 have been fully considered but they are not persuasive.

It is argued that claim 1 recites... (see column 6, lines 7-8). This is not persuasive because while it is true that "halogens are not metals," as applicant asserts, vanadium is a metal and Applicant admits that vanadium oxide is disclosed.

It is argued that furthermore, the disclosure refers... of the particles. This is not persuasive because the disclosed diameter would inherently be the average diameter because one skilled in the art would not read submicron size to refer to particles all having the exact identical size.

It is similarly argued throughout that average particle size distinguishes over the references. This is not persuasive for the reasons above and also because average particle size is disclosed in the new references relied upon.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199

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(IN USA OR CANADA) or 571-272-1000.

/Edward M. Johnson/
Primary Examiner
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EMJ